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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,170	09/06/2000	Motoyasu Taguchi	071671/0155	8925
22428	7590	06/09/2006	EXAMINER	
FOLEY AND LARDNER LLP			WANG, TED M	
SUITE 500			ART UNIT	
3000 K STREET NW			PAPER NUMBER	
WASHINGTON, DC 20007			2611	

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/656,170

Applicant(s)

TAGUCHI, MOTOYASU

Examiner

Ted M. Wang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-15 and 17-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25-27 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, 11-15, 17-19 and 22-24 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 20, 21 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed on 03/29/2006, with respect to claim 1-4, 6-8, 12-15, 17-19, 24 and 28 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments, filed on 03/29/2006, with respect to claims 22 and 23 have been fully considered but they are not persuasive. The Examiner has thoroughly reviewed Applicants' arguments but firmly believes that the cited reference to reasonably and properly meet the claimed limitations.

Independent Claims 11, 22 and 23

- (1) *Applicants' argument* – "However, the rake circuit of Sudo does not include a level judgment circuit for executing electric field level judgment based on the dispreading signals output from the plurality of finger circuit elements 402, 404, and 406 and a predetermined threshold level. The Examiner does not indicate what is considered to be the level judgment circuit in the device of Sudo for executing electric field level judgment based on the dispreading signals output from the plurality of finger circuit elements 402, 404, and 406. " as recited.

Examiner's response –

As shown in Sudo's reference, column 8, line 56 – column 9, line 1, Sudo teaches it is judged whether the maximum value (that is a maximum value selected from the listed envelop value, column 8, lines 24-30) of the despread envelope is equal to or larger than a predetermined threshold or not

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(step d07). When the maximum value is smaller than the threshold, the intermittent receiving control is canceled (step d08) and a start (s) for requiring to start the search operation for the rake demodulation unit 40 is produced (step d09). The process in the embodiment proceeds to the search mode (d10). When the maximum value is equal to or larger than the threshold, the state vectors for the long code and the short code and the necessary reception time t_4 after the elapse of the time t_3 from the time $0V(wu)$ are calculated from the indication value i (step d11). When $0V(wu)$ is detected, the implemented processing is terminated (d12).

Clearly, Sudo's reference teaches the level judgment circuit for executing electric level (envelop value) judgment based on the despread (correlated) received signal output. Thus, for the explanation addressed in the above paragraph, the rejection under 35 U.S.C. 103(a) with Sudo's reference is adequate.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-4, 8, 11-15, 19, and 22-24 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Sudo et al. (US 6,363,101) in view of Nakajima et al. (US 5,487,083).

- With regard claims 1, 8, 12 and 19, Sudo et al. discloses a receiving terminal for CDMA system comprising:

a finger circuit (Fig.1 element 40) having a plurality of finger circuit elements (Fig.1 element 40 and Fig.13 elements 402, 404, and 406), each of said plurality of finger circuit element for making between a correlation of a received signal from a radio circuit connected to an antenna (Fig.1 element 3 and Antenna) and a known signal (Fig.13 element PN code) and for outputting a correlated received signal as result of the correlation (Fig.13 element 40 output); and

a rake circuit (Fig.13 elements 40-48) for combining the correlated received signals output from the plurality of finger circuit elements (Fig.13 elements 402, 404, 406, and 409);

wherein the rake circuit includes a level judgment circuit for executing electric field level judgment based on the despreading signals output from the plurality of finger circuit elements and a predetermined threshold level (column 8, line 56 – column 9, line 1), and

wherein an operation of at least one finger circuit element can be suspended for a fixed, predetermined time period according to the result of the level judgment (column 8, line 63 – column 9, line 1).

Sudo disclose all of the subject matter as described above except for specifically teaching the level judgment based on the correlated received signals instead of the despreading signals.

Nakajima et al., in the same field of endeavor, teaches that the despreading with PN code is a correlation (column 6, lines 1-37).

It is well known that the judging whether the maximum value of the despreading envelope is same as judging the correlation signal level. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to understanding of the correlation taught by Nakajima et al., which is the despreading of Sudo et al. In doing so, the receiver can perform the demodulation function in the spread spectrum system.

- With regard claims 2, 11, 13, and 22-24, Sudo et al. further discloses wherein operation of a control clock supply to the at least one finger circuit element (or a circuit, which is making a correlation between a received signal that is judged to have a low electric field level and a known signal) is suspended for a fixed, predetermined period time for power consumption reduction according to the result of the electric field level judgment by the level judgment circuit (column 8, line 63 – column 9, line 1).
- With regard claims 3 and 14, Sudo et al. further discloses wherein operation of a control clock supply to a timing circuit in the at least one finger circuit element is suspended according to the result of the electric field level judgment by the level judgment circuit (column 9, lines 20-34). Where the power supply to the VC-

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TCXO 1 and reference signal group generation unit 2 is turn off, the clock supply is suspended.

- With regard claims 4 and 15, Sudo et al. further discloses wherein operation of a control clock supply is suspended after the lapse of a predetermined period of time (column 9, lines 35-50).

5. Claims 6, 7, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo et al. (US 6,363,101) and Nakajima et al. as applied above in claims 1 and 12, further in view of Ishikura (US 5,239,684).

- With regard claims 6, 7, 17 and 18, Sudo and Nakajima et al. disclose all of the subject matter as described above except for specifically teaching a memory which is an E2PROM, and threshold data therefrom is supplied under CPU control to the lake circuit as claimed.

Ishikura et al., in the same field of endeavor, teaches a memory (Fig.1 and 2 element 107), which is an E2PROM, and threshold data therefrom is supplied under CPU (Fig.2 element 161) control to a circuit (column 4, lines 11-12 and column 8, lines 56-66).

It is well known that the area of an E2PROM cell is about one fifth of the area of a SAR cell so the area required by a given RAM on the semiconductor chip is greatly reduced, or RAM storage capacity can be increased.

Furthermore, E2PROM setting value can be updated easily. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to

employ E2PROM as taught by Ishikura to store threshold value of the receiver of Sudo et al. in order to update stored value easily.

Allowable Subject Matter

6. Claims 25-27 are allowed.
7. Claims 9, 10, 20, 21 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is an examiner's statement of reasons for allowance.
 - The prior art fails to teach an apparatus of Claims 25-27 that specifically comprises the following:
 - The instant application is deemed to be directed to a non-obvious improvement over the admitted prior art of the instant application and the invention patented in Pat. No. US 6,363,101, US 5,239,684, and US 5,487,083. The improvement comprises "wherein the rake circuit further includes: a main synthesizer for combining electric field levels of all of the correlated received signals output from the plurality of finger circuit elements; and a sub-synthesizer for combining electric field levels of a subset of the correlated received signals output from the plurality of finger circuit elements; and wherein the level judgment circuit is configured to execute the electric field level judgment by comparing the predetermined threshold value with a difference between an output of the main synthesizer and an output of the sub-synthesizer." as recited.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


10. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M. Wang


KEVIN BURD
PRIMARY EXAMINER

Ted M Wang
Examiner
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